ETAS

DRIVING EMBEDDED EXCELLENCE

MDA V8.4.0 – What's New

Functional Enhancements & Usability Improvements

MDA V8.4.0 – What's New

Summary for MDA V8.4.0 (December 2019)

- **Functional Enhancements**
  - Basic GPS instrument to display a track using longitude and latitude
  - Define rules to shrink long signal names to relevant fragment
  - Time Offset for individual signals
  - Copy & Paste Calculated Signals across configurations
  - Further cases of corrupt data get detected and indicated
- **Files, Formats and Data Types**
  - Show 'Events' in the oscilloscope
- **Usability Improvements**
  - More meaningful naming of Calculated Signal functions
  - Remove all no-match signals in one step via Configuration Manager context menu
  - Copy signal name from Variable Explorer and oscilloscope signal list
  - Connect MDA V8.4 to a running EHANDBOOK-NAVIGATOR session
  - A signal is highlighted after selection in the Configuration Manager
  - Reduced data indicator at cursor values can be suppressed
- **General**
  - Reworked handling of 'settings.user' to prevent compatibility issues when returning to an older installation
- **Outlook for Next Version**

MDA V8.4.0 – What's New

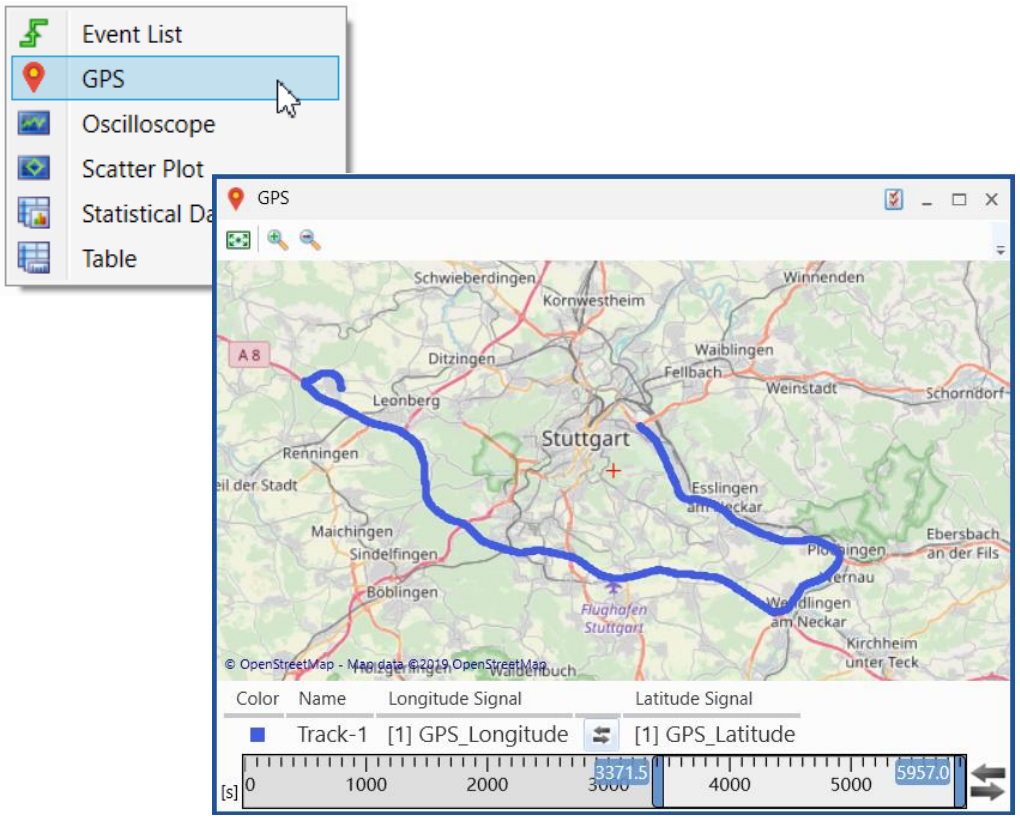
Functional Enhancements of MDA V8.4.0 (December 2019)

- **Functional Enhancements**
  - Basic GPS instrument to display a track using longitude and latitude
  - Define rules to shrink long signal names to relevant fragment
  - Time Offset for individual signals
  - Copy & Paste Calculated Signals across configurations
  - Further cases of corrupt data get detected and indicated
- **Files, Formats and Data Types**
- **Usability Improvements**
- **General**
- **Outlook for Next Version**

MDA V8.4.0 – What's New

Functional Enhancements: Basic GPS instrument to display a track using longitude and latitude (V8.4.0)

- When longitude and latitude information is available in a measure file, a track can be displayed in a map
- GPS instrument identifies automatically longitude and latitude based on the signal names, alternatively a manual reassignment is possible
- Zooming and scrolling the map is possible
- Time range can be defined using the time slider

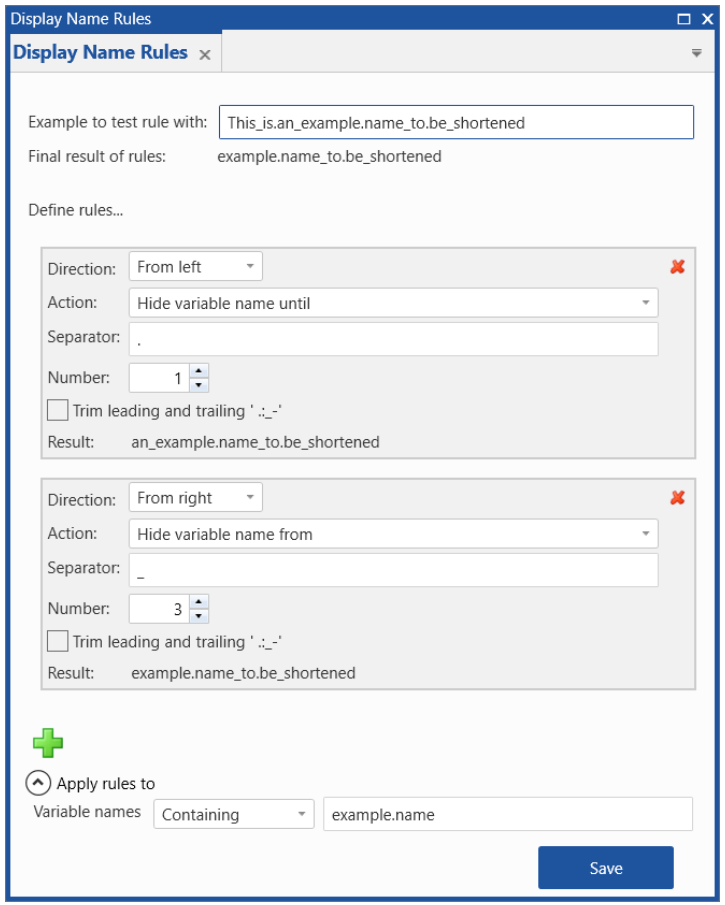


Notes:
- GPS data based on NMEA coordinates is not supported so far.
- Cursors and cursor synchronization is not implemented.

MDA V8.4.0 – What's New

Functional Enhancements: Define rules to shrink long signal names to relevant fragment (V8.4.0)

- As variable names are getting longer and longer, MDA V8.4 allows to shrink the name to the relevant part
- An arbitrary number of rules can be combined to a rule set
- For definition of rules separators (like _ . /) as well as a string can be entered as 'break points'
- Rules can be reordered via drag & drop
- The target group of variables for which the rule set shall be applied is definable
- An example string helps to check the rule set
- If the result of the shrinking would be an empty string, the original name is shown instead

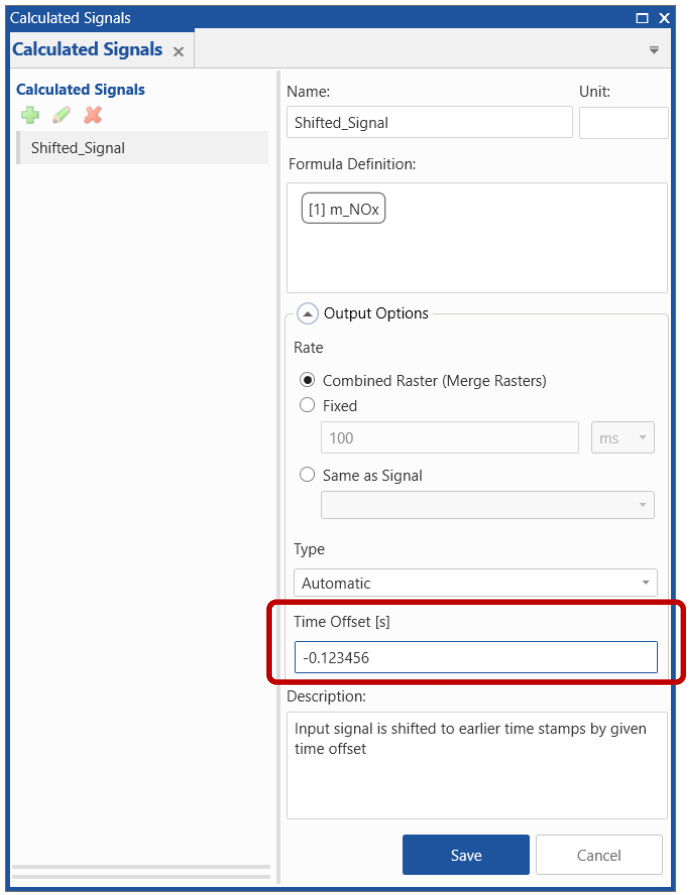


Note:
- Rule set effects the used display name only, i.e. in Variable Explorer or Information Window for 'Name', 'Display Identifier' or 'Symbol Link' the variable's original name is shown.
- Only 'Name' is used for signal mapping when replacing, and not 'Display Name'.
- With MDA V8.4.0 the window appears in English only. This will change with the next release.

MDA V8.4.0 – What's New

Functional Enhancements: Time offset for individual signals (V8.4.0)

- For a proper analysis it is sometimes necessary to shift a specific signal by a time value, so that it gets aligned to the other signals in the measure file
- Via Calculated Signals MDA V8.4.0 supports positive or negative 'time offsets' under Output Options
- The time offset is applied to the result of the calculation
- A shifted signal can be used for display, as input for further calculations, in the export of measured data …
- A file time offset and a time offset for an individual signal are handled cumulatively

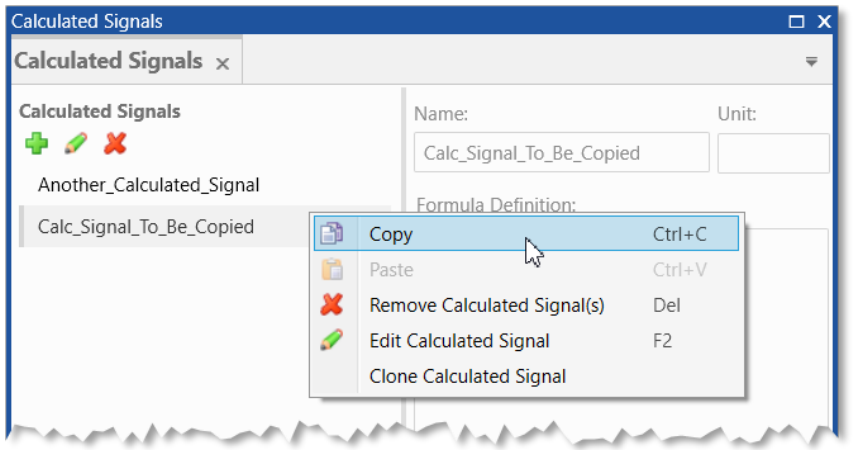


Note:
- Time stamps of the input signal remain unchanged.
- The time offset is given in seconds and can have up to 6 decimals (i.e. microseconds).
- Toolbox functionality "Delay_Signal()" supports only positive values.

MDA V8.4.0 – What's New

Functional Enhancements: Copy & Paste of calculated signals between MDA V8 configurations (V8.4.0)

- To facilitate reuse of already defined calculated signals, MDA V8.4.0 allows to copy and paste calculated signals across configurations
- If a Calculated Signal with the same name already exists, the name of the pasted signal gets incremented
- Copy & Paste includes all aspects of the original signal:
  - Name, unit and formula definition incl. the reference to the measure file of the input signal (see Note)
  - Any output option as raster, type or time offset

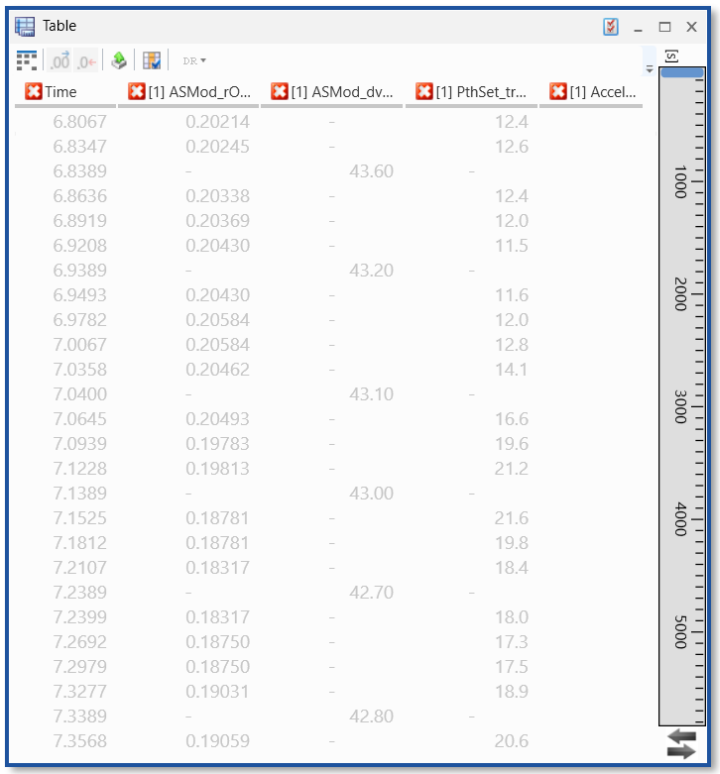


Notes:
- Only selected calculated signals are copied. Dependencies to other calculated signals need to be considered by the user, when copying.
- The reference of the input signals to the original measure file can be resolved usually in two steps:
  1. Replace in the target configuration the desired measure file by the original measure file for the calculated signals. It might be needed to remove first from the instruments in the target configuration the signals with the same names as the input signals of the pasted calculated signals.
  2. Replace the original measure file, but now to the desired measure file.

MDA V8.4.0 – What's New

Functional Enhancements: Further cases of corrupt data gets detected and is indicated (V8.4.0)

- There exists a wide range of potential issues caused by invalid data in measure files, e.g. time stamp overflows, block size exceeds file size, incorrect pointers, etc.
- Not all of these issues are detectable quickly when loading the file, but only when loading the data for the time range with the erroneous information
- When MDA V8.4.0 detects such error, then
  - on-the-fly an error icon is added to all signal names and time column in the active instrument
  - last available data is greyed out
  - the tooltip shown at the error icon provides more details



Notes:
- For performance reasons MDA V8 checks during file loading only meta data of the file for inconsistencies.
- Also covered are network connection issues happening when MDA V8 needs access (e.g. when exporting a measure file).
- Update to show such an error happens per instrument only, and when there is a scroll or zoom operation conducted.
- Removal of the erroneous signal from the instrument might heal the situation.

MDA V8.4.0 – What's New

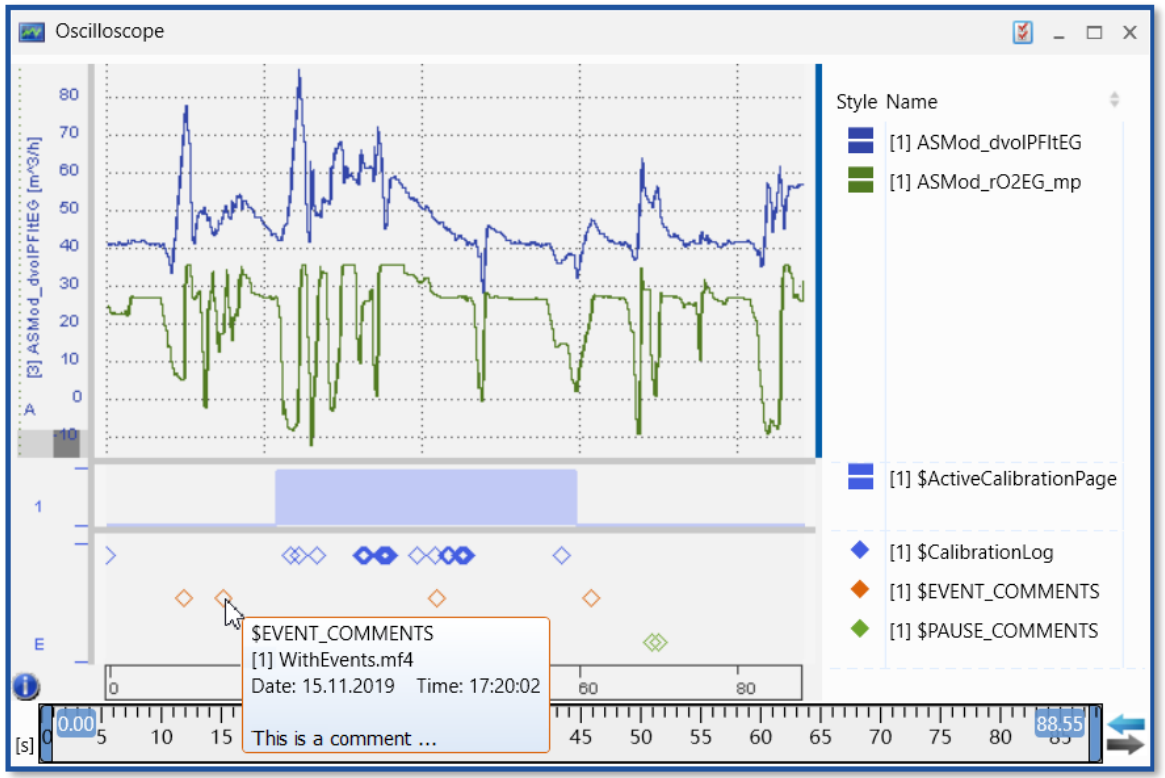
Files, Formats and Data Types – Changes in MDA V8.4.0 (December 2019)

- **Functional Enhancements**
- **Files, Formats and Data Types**
  - Show 'Events' in the oscilloscope
- **Usability Improvements**
- **General**
- **Outlook for Next Version**

MDA V8.4.0 – What's New

Files, Formats and Data Types: Show 'Events' in the oscilloscope (V8.4.0)

- Oscilloscope offers a 'Event Lane' to easily visualize and analyze event signals, like pause, comments during recording, or calibration activities
- Each event is reflected by a single marker (color and marker style can be adapted)
- When hovering onto a marker, available event contents are shown in a tooltip



Note:
- Improvement for visibility of Pause events is planned for an upcoming releases.

MDA V8.4.0 – What's New

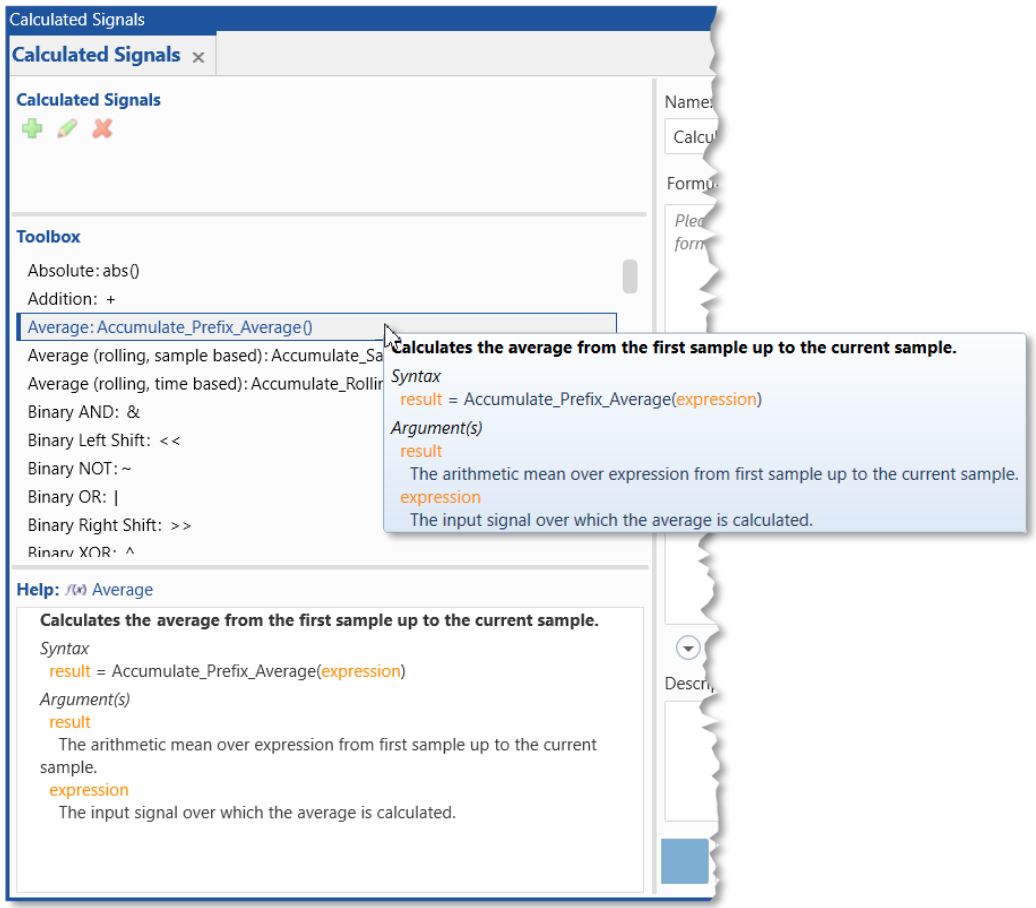
Usability Improvements of MDA V8.4.0 (December 2019)

- **Functional Enhancements**
- **Files, Formats and Data Types**
- **Usability Improvements**
  - More meaningful naming of Calculated Signal functions
  - Remove all no-match signals in one step via Configuration Manager context menu
  - Copy signal name from Variable Explorer and oscilloscope signal list
  - Connect MDA V8.4 to a running EHANDBOOK-NAVIGATOR session
  - A signal is highlighted after selection in the Configuration Manager
  - Reduced data indicator at cursor values can be suppressed
- **General**
- **Outlook for Next Version**

MDA V8.4.0 – What's New

Usability Improvements: More meaningful naming of Calculated Signal functions (V8.4.0)

- To make usage of Calculated Signal functions easier the names of the functions were reworked to have better understandable names
- Functions using the same basic operation appear in the list together (e.g. different functions of 'Average')
- The tooltip and Help window contents show a brief description of the arguments, and in more complex cases also limitations or examples

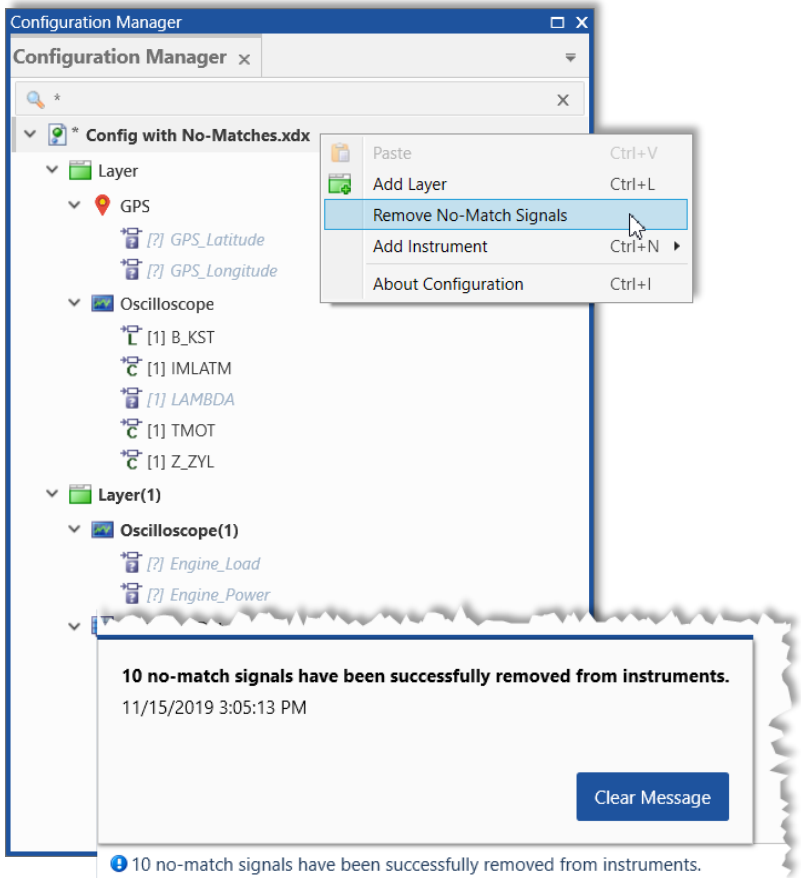


Note:
- With MDA V8.4.0 the function names appear in English independent from the selected user language. This will be solved with the next release.

MDA V8.4.0 – What's New

Usability Improvements: Remove no-match signals from all instruments (V8.4.0)

- No-match signals happen, if a signal in the configuration can not be displayed because
  - after a file replacement no signal with the same name is available in a measure file
  - after a file replacement a clear identification of the signal to be displayed is not possible
  - the measure file was removed from the configuration
- To clean up the configuration from all no-matches in instruments, there is a new context menu entry in the Configuration Manager
- The clean-up result is shown in the status bar of MDA

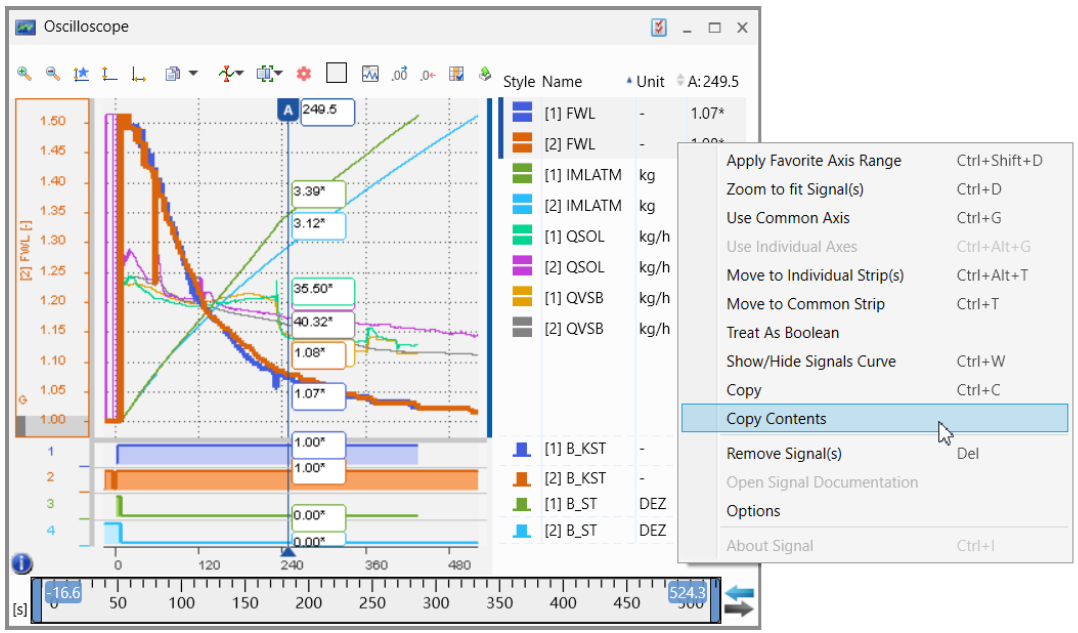


Note:
- A no-match situation caused by a missing measure file is indicated by the file ID entry [?].
- Removing a specific no-match signal only is done directly in the instrument or Configuration Manager.
- If the input signal of a Calculated Signal is in no-match state, the clean-up needs to be done manually.

MDA V8.4.0 – What's New

Usability Improvements: Copy signal name from Variable Explorer and oscilloscope signal list (V8.4.0)

- Depending on the context, 'Copy' (CTRL+C) functionality can be used for different use cases
- Usually the pure signal name shall be copied, as it is done in Variable Explorer, Configuration Manager, and all instruments except Statistics
- In Statistics view and Information Window the contents of the selected rows (e.g. statistical data) plus the row or column name are copied
- The new context menu entry 'Copy Contents' in the oscilloscope enables to copy complete rows incl. header row



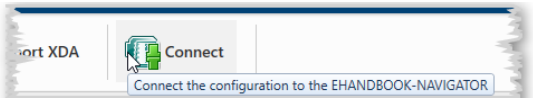
Note:
- The possibility to copy (CTRL+C) is not shown in all context menus.
- To copy a signal name from the Scatter Plot the respective axis must be selected.

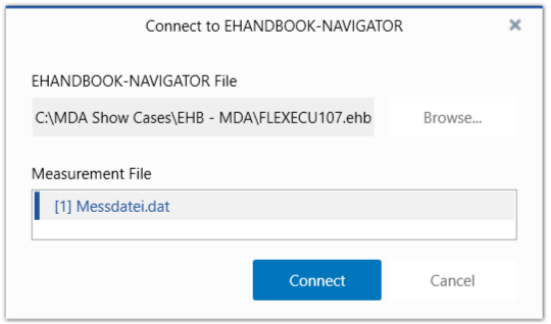
MDA V8.4.0 – What's New

Usability Improvements (V8.4.0)

Connect MDA V8.4 to a running EHANDBOOK-NAVIGATOR session

- When an EHANDBOOK-NAVIGATOR application is already open MDA V8.4.0 can connect to the running application *
- The loaded EHANDBOOK container is indicated automatically in the connection dialog



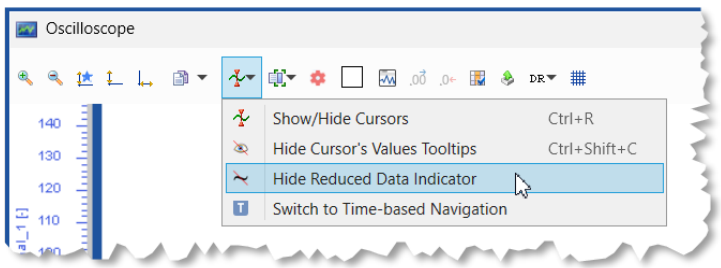


A signal is highlighted after selection in the Configuration Manager

- A signal can be selected in the Configuration Manager using double-click or ENTER, and then its respective occurrence in the instrument gets visible and active

Reduced data indicator can be suppressed

- The indicator at cursor values for reduced data (≈) can be hidden



* Note:
- Connection to an already running session requires EHANDBOOK-NAVIGATOR V8.0.

MDA V8.4.0 – What's New

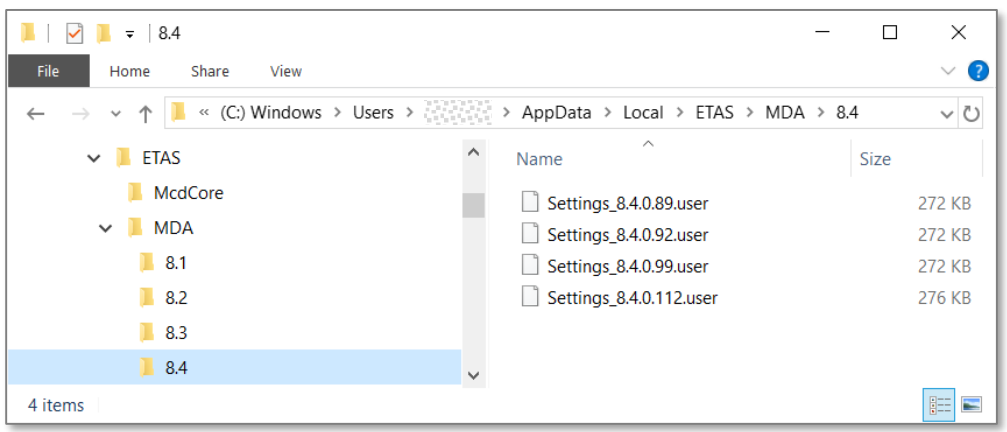
General Notes & Outlook (December 2019)

- **Functional Enhancements**
- **Files, Formats and Data Types**
- **Usability Improvements**
- **General Notes**
  - Reworked handling of 'settings.user'
  - Overview of installed components and system requirements
- **Outlook for Next Version**

MDA V8.4.0 – What's New

General: Reworked handling of 'settings.user' files (V8.4.0)

- MDA V8 persists automatically many configuration settings selected by the user
  - For example language, paths, docking views, instruments and signal settings
- These settings are loaded, when the application is started
- Newer MDA installations for which no 'settings.user' file exists, migrate an available file to be re-used with the new installation
- With MDA V8.4.0 the 'settings.user' file name is extended by the version number
- This helps when the user needs to return to an older installation, as then the old 'settings.user' file is still available and can be re-used



Notes:
- For more details about persisted settings, see MDA Manual chapter 1.3.
- Existing settings.user files must not be edited externally. Edited files are rejected by MDA V8.
- For more details, e.g. where files are store, or how to define default settings see the MDA V8 documentation

MDA V8.4.0 – What's New

General Notes

Additionally Installed Components	MDA V8.3.x	MDA V8.4.0
.Net-Runtime-Environment [1)]	V4.6.2	V4.6.2
VCxRedist (V credist_x86 / V credist_x64)	VC10 + VC15 + VC17	VC10 + VC15 + VC17
ETAS Certificate	X	X
ETAS License Manager (x86 / x64) [2)]	V1.7.1	V1.7.3
Direct X	V9 (or higher)	V9 (or higher)
Others		
ETASShared (IPManager only)	12	12
System-Requirements		
Windows® 7 (64 bit) [3)]	X	X
Windows® 8 or 8.1 (64 bit)	X	X
Windows® 10 (64 bit)	X	X

[1)] This component is installed only when no or an older version is installed. This is checked by a Microsoft installation routine.
[2)] ETAS License Manager is installed only when no or just an older LiMa version is installed.
[3)] Support of Windows® 7 OS will end in early 2020. MDA V8.4.0 is the last MDA V8 version supporting Windows® 7 OS.

MDA V8.4.0 – What's New

General Notes & Outlook (December 2019)

- Functional Enhancements
- Files, Formats and Data Types
- Usability Improvements
- General Notes
- **Outlook for Next Version**

MDA V8.4.0 – What's New

Outlook for the next MDA V8 release

- The following improvements are **planned for the next release** (March 2020)
  - Snapshot recording for MDF V4 files (in combination with INCA V7.3 only)
  - Show additional meta information for measure file (requires INCA V7.2.15 or higher)
  - Import of Calculated Signals from *.xda files created by INCA V7.x
  - Oscilloscope: Define default behavior of axes assignment for newly added signals
  - Oscilloscope: Improvement for Pause event visualization
  - Cursor synchronization for GPS Map Viewer
  - …

ETAS
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Thank you for using MDA V8.4